

AMENDMENTS TO THE CLAIMS:

Please amend claims 15-17 and add newly written claims 18-26 as follows.

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-14. (*Cancelled*)

15. (*currently amended*) An aircraft assembly process for assembling at least one aircraft component, said process comprising the steps of:

~~producing an assembly tool for supporting an aircraft component comprising:~~

a) calculating a plurality of predetermined positions and corresponding orientations in space at which ~~the~~ at least one aircraft component is to be supported;

b) designing a fixture frame configured to provide support for the at least one aircraft component at predetermined locations of the frame associated with said predetermined positions;

c) constructing the fixture frame by selecting elongate members having predetermined lengths and connecting the elongate members together by ~~means of~~ releasable fastening means;

d) ~~providing~~ securing a plurality of pick-up devices to said frame at said predetermined locations, each said pick-up device including a receiving element, each having a receiving element for carrying the component, by selecting further elongate members having predetermined lengths and connecting the further elongate members together and to the receiving element by means of clamping elements adapted selectively to allow at least three degrees of freedom of movement of each receiving element along at least two orthogonal axes and around at least one axis coplanar with the orthogonal axes;

e) ~~securing the pick-up devices to the fixture frame at the predetermined locations; and~~
fe) adjusting each receiving element ~~along/around the~~ with respect to orthogonal axes to align the receiving element with a respective predetermined position and orientation;
f) mounting said at least one aircraft component on the assembly tool; and
g) performing an assembly operation on said at least one aircraft component.

16. *(currently amended)* An assembly process according to claim 15 further comprising the steps of:

reconfiguring at least one of said pickup devices and the fixture frame ~~the assembly tool~~
on completion of the assembly operation,

mounting at least one other aircraft component on the reconfigured ~~assembly tool~~ fixture frame and pickup devices, and
performing another assembly operation.

17. *(currently amended)* An assembly process according to claim 16 in which the reconfiguring ~~step~~ ~~the assembly tool~~ comprises at least one of the steps of adjusting the relative relationship of respective elongate members of the fixture frame, and/or adjusting the locations of respective pick-up devices in relation to the fixture frame.

18. *(new)* An aircraft assembly process according to claim 15, wherein said adjusting step includes adjusting said receiving element along at least two orthogonal axes.

19. (new) An aircraft assembly process according to claim 18, wherein said adjusting step includes adjusting said receiving element around a third axis orthogonal to said two orthogonal axes.

20. (new) An assembly process according to claim 15 further comprising, on completion of said assembly operation, the steps of:

calculating new predetermined positions and corresponding orientations for supporting a further aircraft component,

adapting said receiving elements to said further aircraft component,

mounting said further aircraft component on said adapted receiving elements, and

performing another assembly operation.

21. (new) An assembly process according to claim 20 in which the step of adapting comprises adjusting at least one of the relative relationship of respective elongate members of said fixture frame and the locations of respective pick-up devices in relation to said fixture frame.

22. (new) A process according to claim 15 in which the step of calculating includes determining said predetermined positions and corresponding orientations from computer aided design data for said aircraft component.

23. (new) A process according to claim 15 in which the step of adjusting comprises:

setting a respective receiving element approximately in said respective predetermined position and corresponding orientation,

measuring an actual position and an actual orientation of said receiving element,

moving said receiving element towards said predetermined position and corresponding orientation, and

iterating the steps of measuring and moving.

24. (new) A process according to claim 23 in which said securing step includes measuring actual position and actual orientation of each receiving element and comparing said measured information to said predetermined position and corresponding orientation as determined from computer aided design data for said at least one aircraft component.

25. (new) A process according to claim 23 in which said actual position and actual orientation of each receiving element are measured by means of a laser tracking device.

26. (new) A process according to claim 23, wherein said receiving elements include clamping elements and said clamping elements are adapted selectively to allow six degrees of freedom of movement, along and around three orthogonal axes, and in which the step of adjusting comprises moving each receiving element along and around three orthogonal axes.